

Trends in Global Shipping & Future Infrastructure Needs for Washington Ports



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Planning to Cover....

- 1) Structural Changes to Global Container Trade and Impacts for WA and OR ports**
- 2) Review of U.S. Container Trade, Trade Deficit and Long-Term Implications**
- 3) Reversing the Trend: Importance of Infrastructure Investment to Facilitate Bulk Exports to Asian Markets**

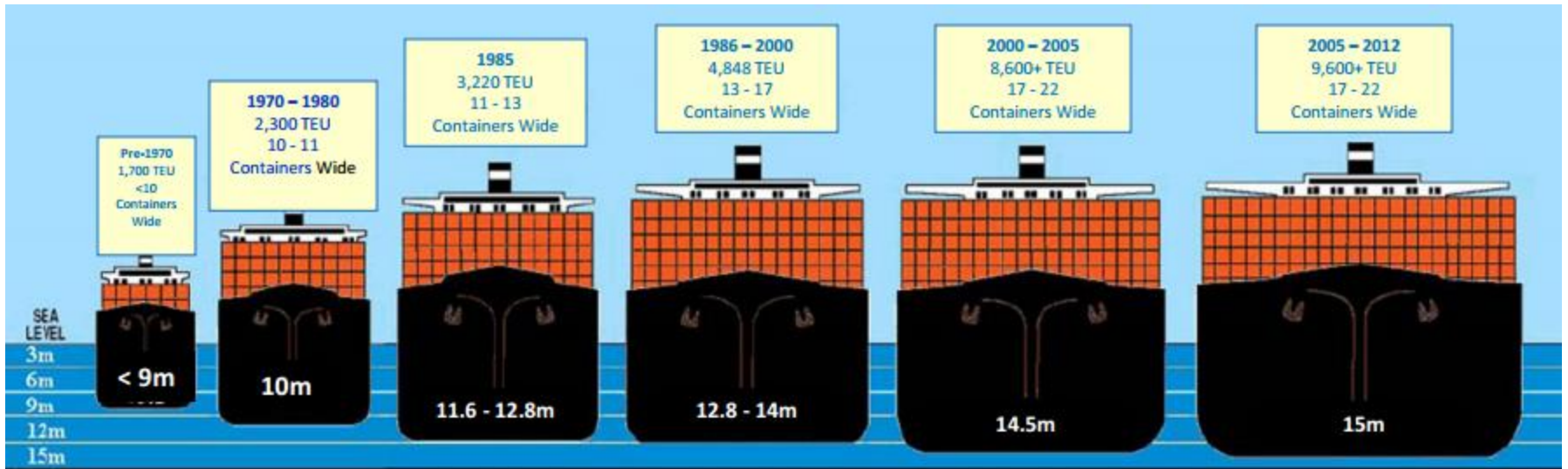


1) Structural Changes to Global Container Trade and Impacts for WA and OR ports

“The ports of Seattle and Tacoma face fierce competition from ports throughout North America and must adjust to the shifts in the global maritime industry. Global shipping lines, continuing to lose millions of dollars each year, are investing in larger vessels with more capacity, sharing those vessels and consolidating terminals and reducing the number of ports at which they call.”

-- Kurt Beckett, Deputy Director, Port of Seattle (2014)

Evolution of Container Vessel Size

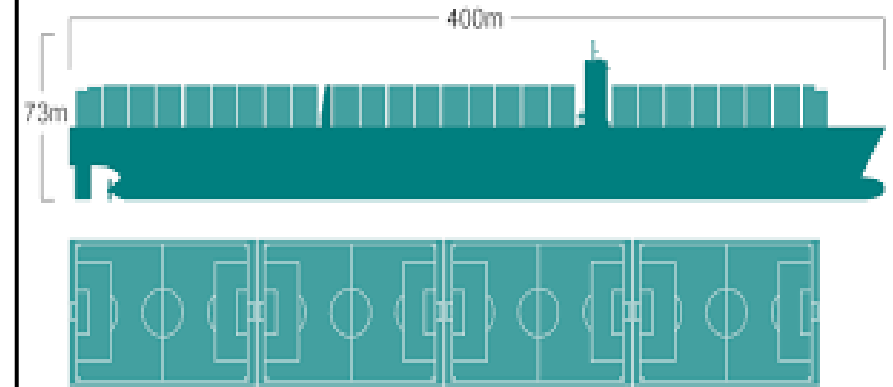


CSLC Globe = ~20,000 TEU Capacity



CSCL Globe cargo ship is longer than four football pitches

Capacity: 19,100 containers

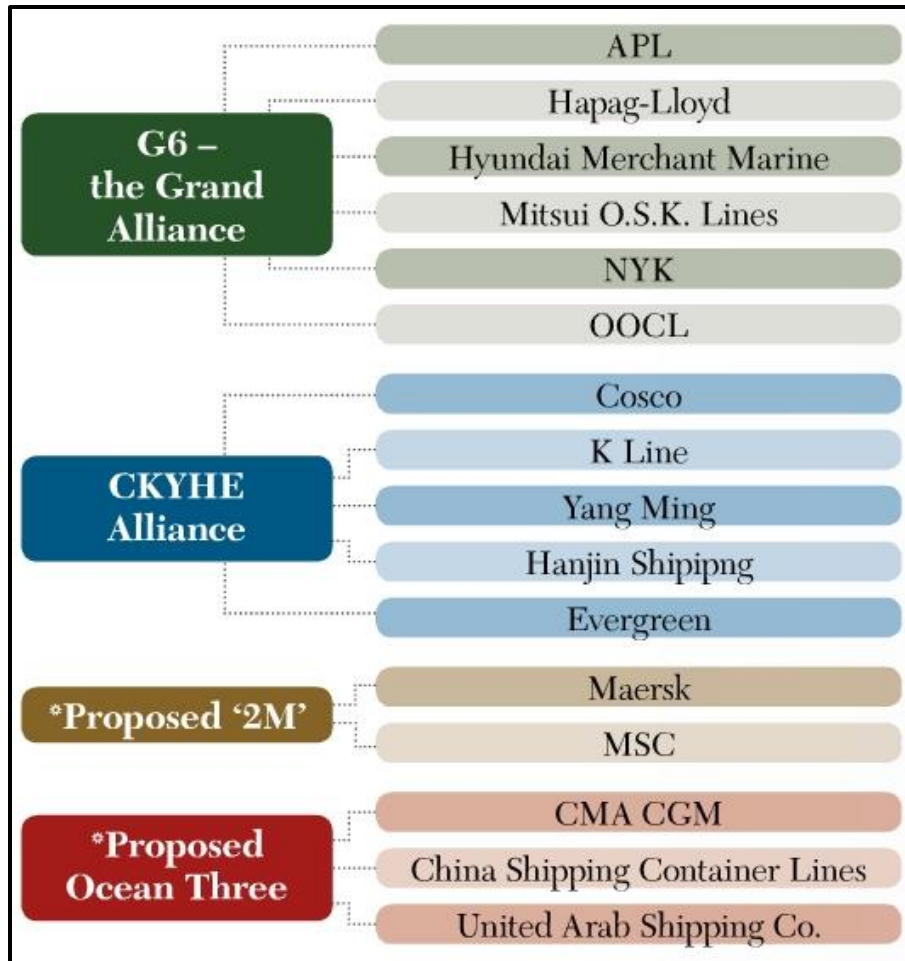


Source: Hutchison Port Holdings

Preparing for larger vessels & volume increases requires appropriate planning

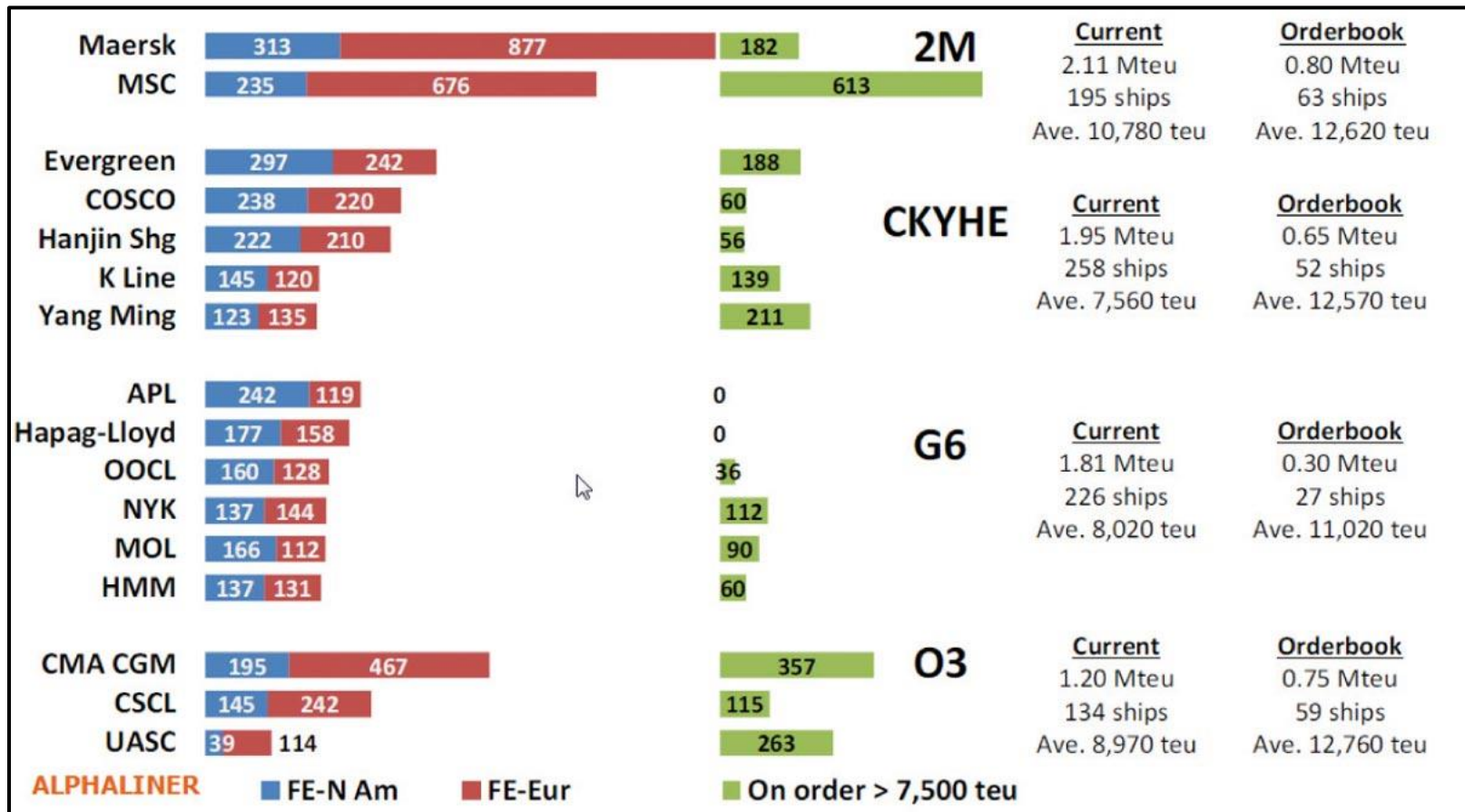
- Crane size
- Draft restrictions
- Number of cranes & additional terminal equipment
- Berth window considerations
- Volume impact on traffic & rail
- Labor availability

Evolution of Shipping Line Alliances



Result: More freight in fewer gateways as volumes concentrate in fewer ships to reduce average fixed costs per slot, they concentrate in fewer ports

The “Big Ship” Order Book

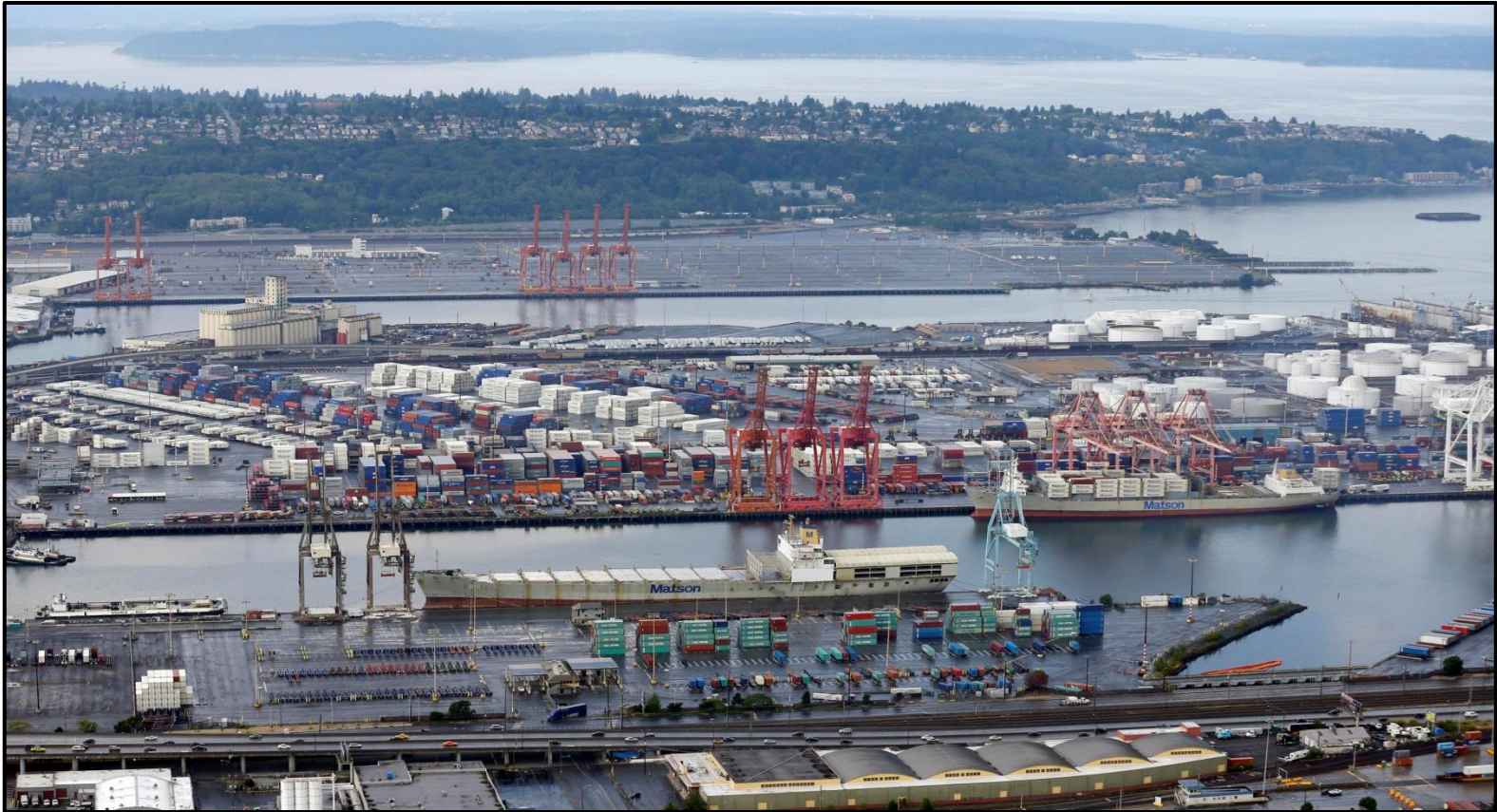


Impacts for Ports in WA and OR

More Port Rationalization – An Outgrowth of Changing Shipping Line Objectives

- Increasing prevalence of vessel sharing agreements on all major trades has been diluting the service differentiation and brand identities of most carriers
- With less service differentiation, carriers have intensified their focus on maintaining competitiveness through cost reductions
- This greater focus on cost reductions drives the ship lines to order ever-larger ships, in order to obtain the minimum unit slot costs possible
- To fill larger ships, carriers have become increasingly dependent on vessel sharing alliances
- Given ordering patterns for newly-built ships, it suggests that these ship-asset rationalization mechanisms will continue and be expanded
- With the pressures on reducing costs, having inefficiently-utilized carrier-controlled terminals is no longer sustainable for many lines

Port of Seattle: 38% Utilization Rate



**Result: Formation of Port of Seattle and Port of Tacoma
“Seaport Alliance”**

Port of Portland: Exit of Container Lines

Port of Portland container terminal loses almost all business...

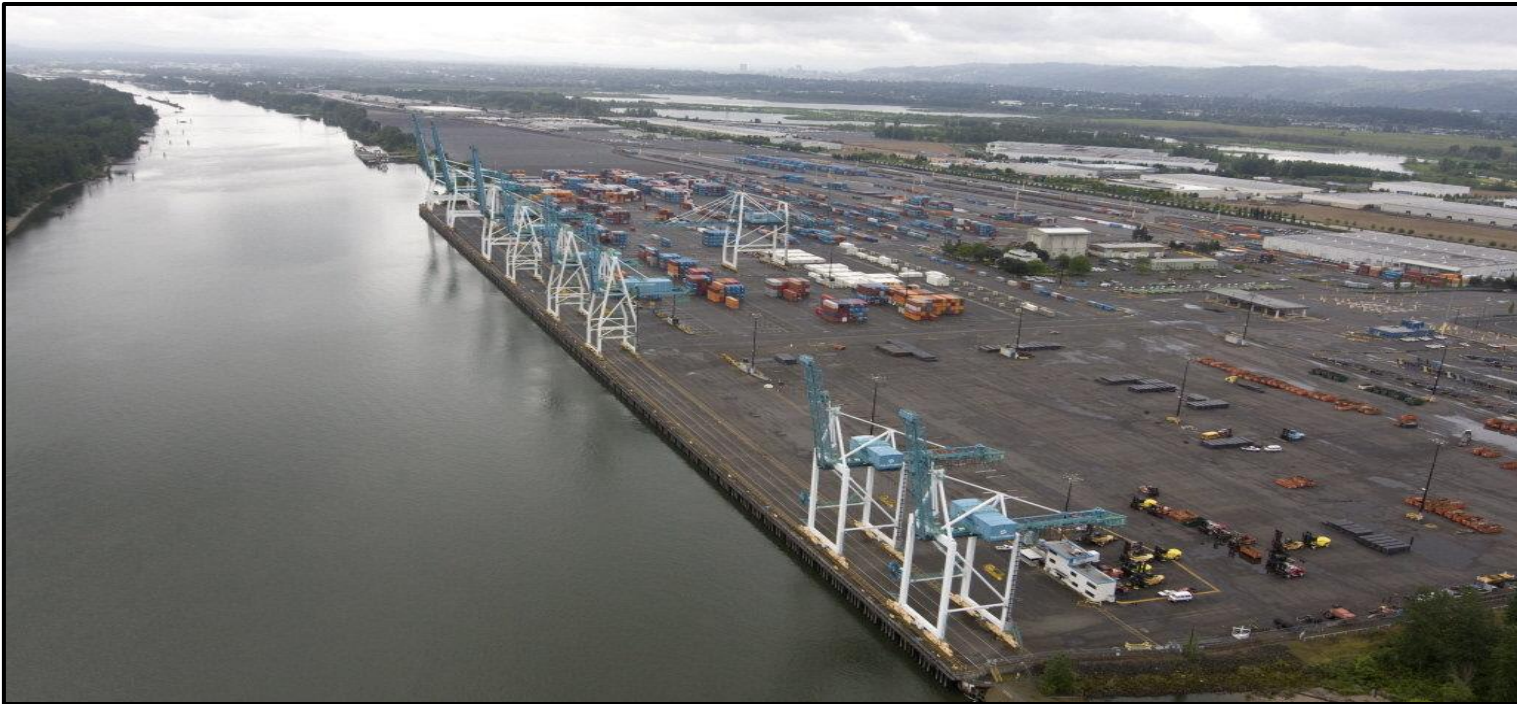
www.oregonlive.com/.../port_of_portland_container_te...

Apr 3, 2015 - The only remaining shipping line is Westwood, which only sends a few boats in and out of the **Port of Portland**. Hanjin Shipping Co. pulled out ...

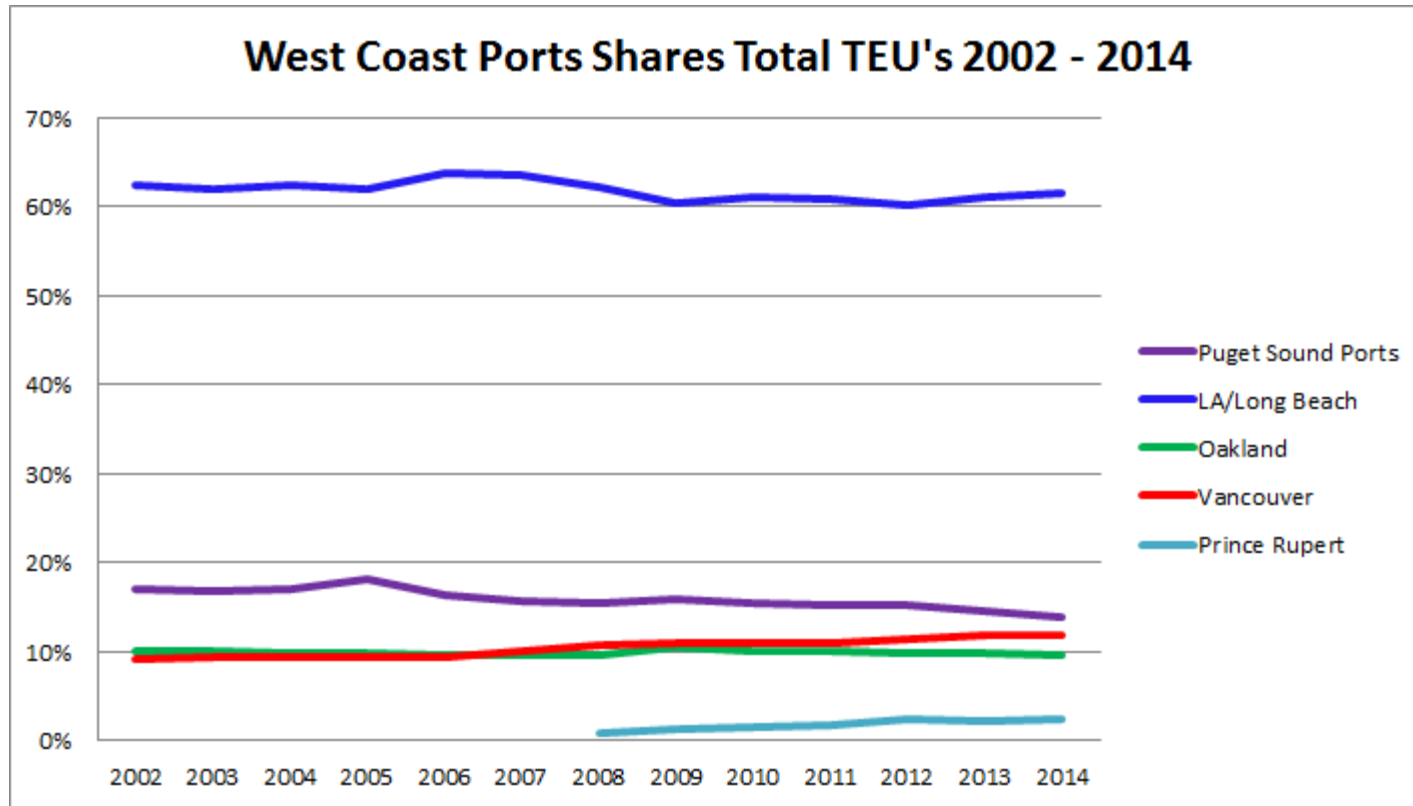
Container-terminal loss at Port of Portland felt deeply upriver...

www.oregonlive.com/.../economic_pulse_remains_stea...

Apr 12, 2015 - The **Port of Portland** faced another round of trouble last week: Shipping line Hapag-Lloyd officially announced that no more ships would be ...

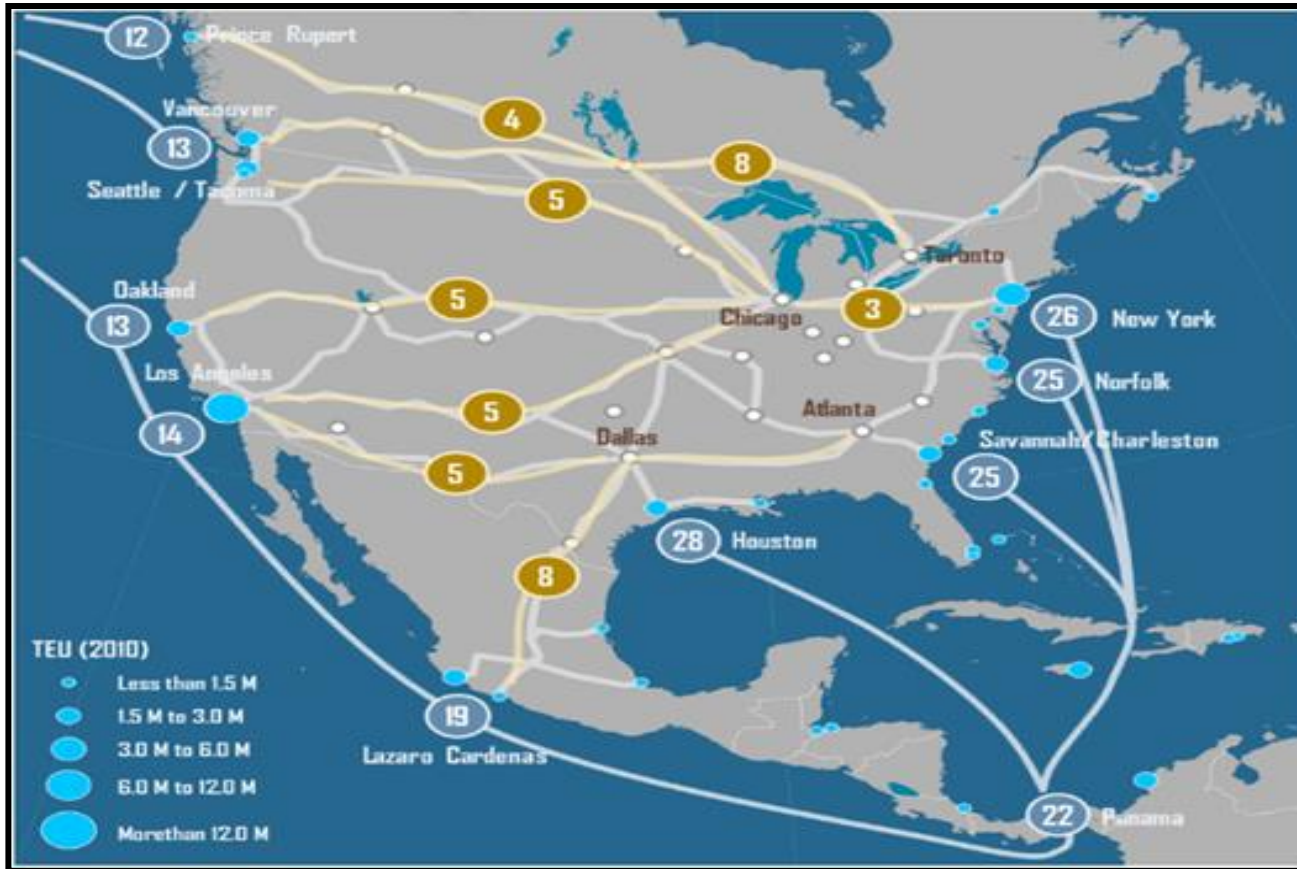


Where's PNW Container Cargo Going?



Conclusion: Negative long-term outlook for container business recovery for Washington and Oregon seaports

Panama Canal Expansion Impacts



Result: Larger vessels with East Coast cargo can by-pass West Coast all together

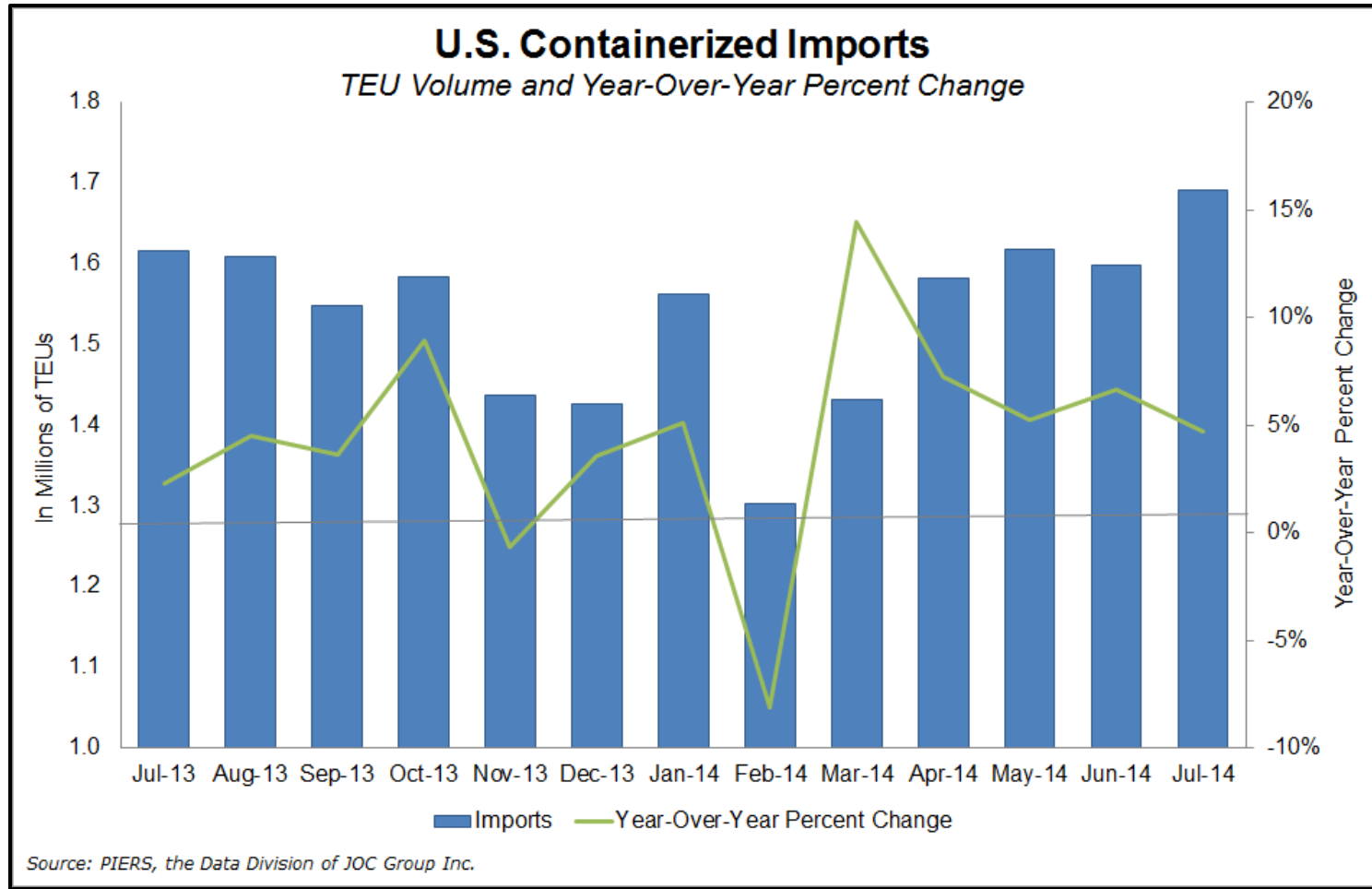


2) Review of U.S. Container Trade, Trade Deficit and Long-Term Implications

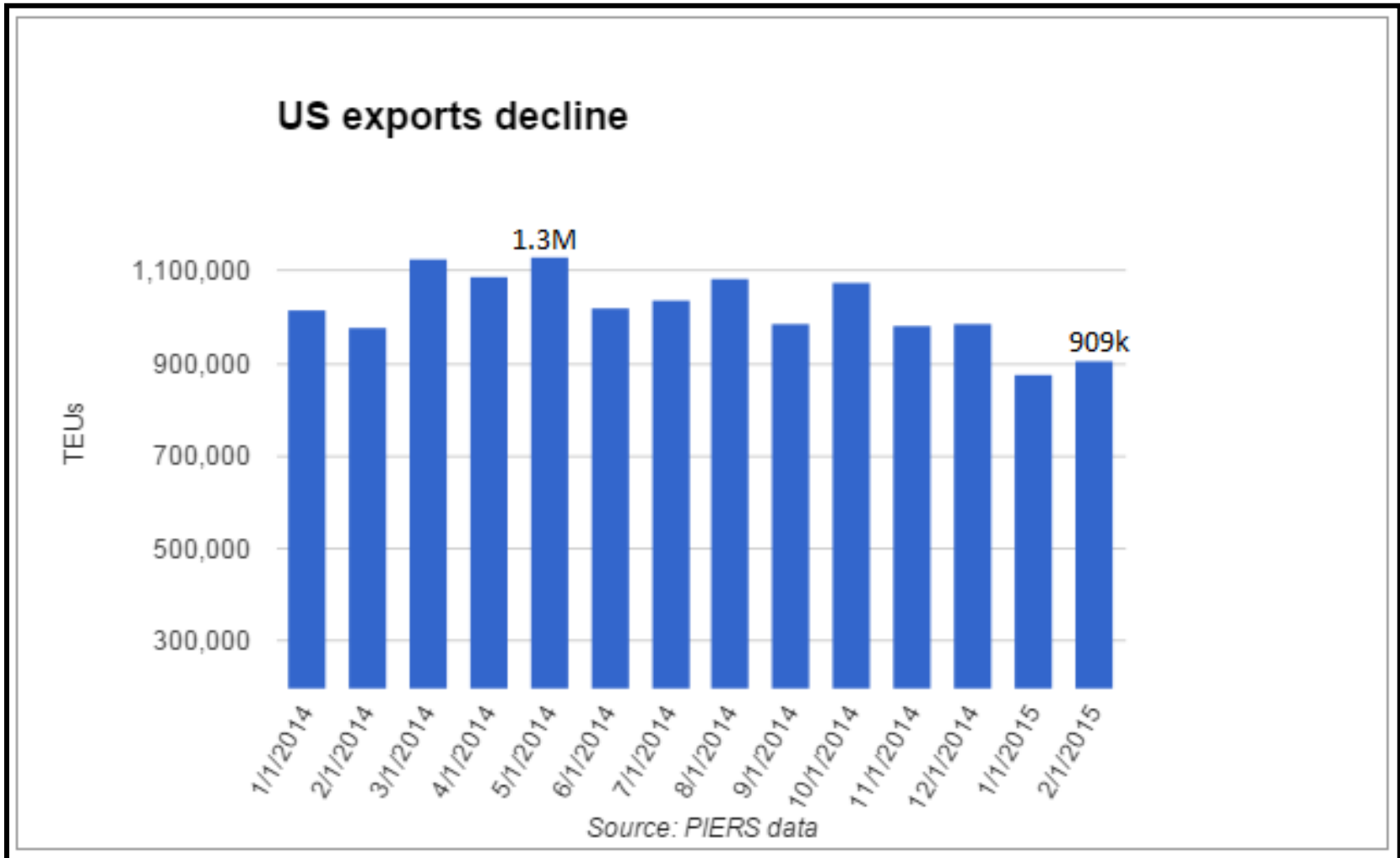
“To finance this trade deficit, the U.S. has to borrow from the rest of the world or sell American assets like stocks, businesses, and real estate to the rest of the world”.

-- **Martin Feldstein, Economist**

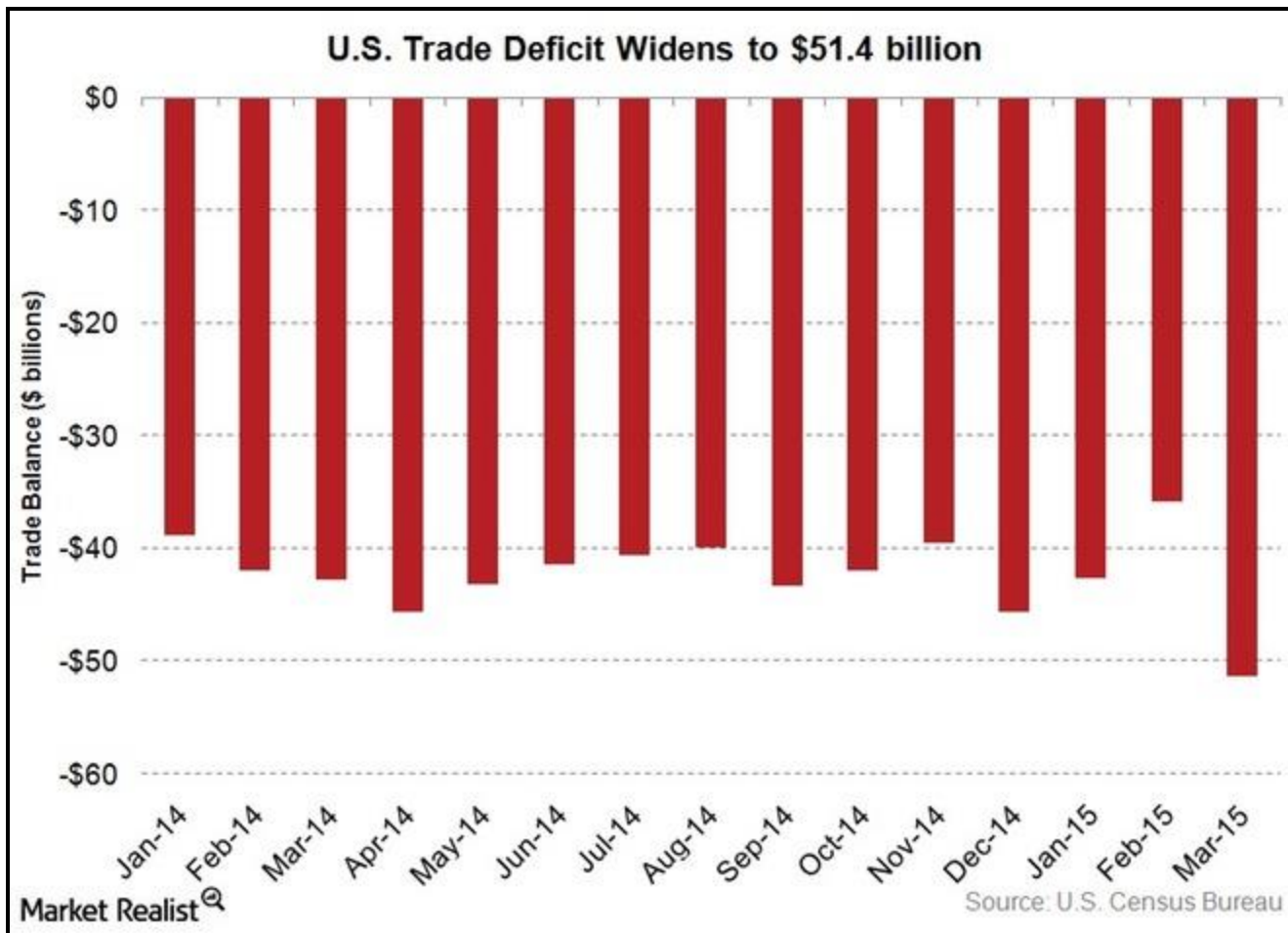
U.S. Container Imports = ~1.6m TEU / mo.



U.S. Container Exports = ~1m TEU / mo.



U.S. Trade Deficit = ~\$40 Billion / mo.



Key Observations

- **The U.S. trade deficit is unsustainable in the long run**
- **Due to fracking, U.S. oil production is growing and further investment in infrastructure will help reverse the oil trade deficit**
- **Excluding oil, the goods trade deficit is still 2x that of the services surplus.**
- **The Baby Boom generation is driving a major demographic shift; most likely they will spend more on services and less on goods, which would slow US imported goods growth down.**
- **That would help the trade deficit but perhaps not the public sector financial deficit**
- **Exports may be impacted more by port / infrastructure congestion than by the stronger US dollar**
- **Investments in infrastructure will make exports more competitive.**

What Can the U.S. Competitively Export?

- **The U.S. has comparative (and competitive) advantages in the production of goods that use little labor.**
- **This is shown in the list of goods that the U.S. has been prone to export.**
- **Agricultural, forestry and energy products top the list:**

Containerized	Bulk (dry & liquid) / Breakbulk
Scrap Metal and Waste	Oil Seeds (Soy)
Raw Hides and Leather	Wood and Charcoal
Cotton - Untreated, Yarn And Woven Fabric	Cereal Grains
Meat and other Edible Animal Parts	Crude Oil and Refined Petroleum
Paper and Paperboard	Live Animals
Plastics Feedstock and Manufactured Goods	Wood Pulp Scrap / Pellets
Chemical Products	Coal



3) Reversing the Trend: Importance of Infrastructure Investment to Facilitate Bulk Exports to Asian Markets

“As aging population drags on public sector finance and imports, *export-oriented infrastructure is the antidote.*”

-- **Walter Kemmsies, PhD, Chief Economist, Moffat & Nichol**